Contents

Preface vii

Participating laboratories viii

Introductory chapter: Eutrophication gradients in coastal lagoons as exemplified by the Bassin d'Arcachon and the Étang du Prévost
by J. Castel, P. Caumette & R. Herbert ..... ix–xxviii

PART I: EUTROPHICATION EFFECTS ON POPULATION DYNAMICS, BIODIVERSITY AND TROPHIC RELATIONSHIPS IN COASTAL LAGOONS

Heterotrophic bacterial, activity and bacterial diversity in two coastal lagoons as detected by culture and 16S rRNA genes PCR amplification and partial sequencing
by S. Benlloch, F. Rodríguez-Valera, S.G. Acinas & A.J. Martínez-Murcia 3–17

Description of prokaryotic biodiversity along the salinity gradient of a multipond solar saltern by direct PCR amplification of 16S rDNA
by S. Benlloch, S.G. Acinas, A.J. Martinez-Murcia & F. Rodríguez-Valera 19–31

Anoxygenic phototrophic bacteria in eutrophic coastal lagoons of the French Mediterranean and Atlantic Coasts (Prévost Lagoon, Arcachon Bay, Certes Fishponds)
by R. Guyoneaud, R. Matheron, R. Baulaigue, K. Poduer, A. Hirschler & P. Caumette 33–43

Zooplankton variability related to environmental changes in eutrophic coastal lagoon in the Po Delta
by S. Sei, G. Rossetti, F. Villa & I. Ferrari 45–55

A field experiment on the effect of two types of sediment disturbance on the rate of recovery of a meiobenthic community in a eutrophicated lagoon
by M.A. Colangelo, T. Macrí & V.U. Ceccherelli 57–68

Diel and seasonal vertical distribution of meiobenthic copepods in muddy sediments of a eutrophic lagoon (fish ponds of Arcachon Bay)
by E. Buffan-Duban & J. Castel 69–78

The role of phototrophic sulfur bacteria as food for meiobenthic harpacticoid copepods inhabiting eutrophic coastal lagoons
by L.P. Souza-Santos, J. Castel & P.J.P. Santos 79–89

PART II: EUTROPHICATION EFFECTS ON BIOGEOCHEMISTRY OF NITROGEN AND SULFUR IN COASTAL LAGOONS

Growth of the seaweed Ulva rigida C. Agardh in relation to biomass densities, internal nutrient pools and external nutrient supply in the Sacca di Goro lagoon (Northern Italy)
by P. Viaroli, M. Naldi, C. Bondavalli & S. Bencivelli 93–103
Macrophyte communities and their impact of benthic fluxes of oxygen, sulphide and nutrients in shallow eutrophic environments
by P. Viaroli, M. Bartoli, C. Bondavalli, R.R. Christian, G. Giordani & M. Naldi 105–119
Differential anaerobic decomposition of seagrass (Zostera noltii) and (Monostroma obscurum) biomass from Arcachon Bay (France)
by S. Bourguès, I. Auby, R. de Wit & P.J. Labourg 121–131
Nitrification, denitrification, and nitrate ammonification in sediments of two coastal lagoons in Southern France
by S. Rysgaard, N. Risgaard-Petersen & N.P. Sloth 133–141
Benthic oxygen respiration, ammonium and phosphorus regeneration in surficial sediments of the Sacca di Goro (Northern Italy) and two French coastal lagoons: a comparative study
by M. Bartoli, M. Cattadori, G. Giordani & P. Viaroli 143–159
Seasonal variation in rates of heterotrophic nitrogen fixation (acetylene reduction) in Zostera noltii meadows and uncolonised sediments of the Bassin d'Arcachon, south-west France
by D.T. Welsh, S. Bourguès, R. de Wit & R.A. Herbert 161–174
Relationships between porewater organic carbon content, sulphate reduction and nitrogen fixation (acetylene reduction) in the rhizosphere of Zostera noltii
by D.T. Welsh, P. Wellsbury, S. Bourguès, R. de Wit & R.A. Herbert 175–183
The biogeochemistry of two eutrophic marine lagoons and its effect on microphytobenthic communities
by L.J. Stal, S.B. Behrens, M. Villbrandt, S. van Bergeijk & F. Kruyning 185–198
Sulfur bacteria in sediments of two coastal ecosystems: the Bassin d'Arcachon and the Etang du Prévost, France
by B.E.M. Schaub & H. van Gemerden 199–210
Sulphide release from anoxic sediments in relation to iron availability and organic matter recalcitrance and its effects on inorganic phosphorus recycling
by G. Giordani, M. Bartoli, M. Cattadori & P. Viaroli 211–222

SUBJECT INDEX 223–225